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Application No. 09/429,939  
Reply to final Office Action of July 6, 2006

Patent  
Attorney Docket No. 89003-44

### REMARKS/ARGUMENTS

#### A. Summary of the Amendments

The application now contains 26 claims.

Claims 26, 28-32, 34-37 and 39-41 have been cancelled by the present amendment.

Claims 1-25, 27, 33 and 38 were previously cancelled.

Claims 42-67 are new.

The Applicant submits that support for the amendments to the claims exists in the specification as originally filed and that no new matter is being added to the present application through the present amendment.

#### B. Statements of Rejection under 35 USC §112

In the Office Action, the Examiner rejected former claim 41 under 35 U.S.C. §112 as being indefinite for failing to point out and distinctly claim the subject matter which the Applicant regards as the invention. More specifically, the Examiner indicated that former claim 41 was redundant to claim 26.

Claim 41 is being cancelled by the present amendment and new claims 42-67 have been presented. The applicant submits that new claims 42-67 satisfy the requirements of 35 U.S.C. §112. As such the Applicant respectfully requests that the Examiner withdraw his rejection.

#### C. Statements of Rejection under 35 USC §103

In the Office Action, the Examiner has rejected former claims 26, 28, 29, 32, 34, 35 and 39-41 under 35 U.S.C. §103(a) as being unpatentable over US Patent 4,233,694

Application No. 09/429,939  
Reply to final Office Action of July 8, 2006

Patent  
Attorney Docket No. 89003-44

(hereafter to be referred to as Janosko et al.), US Patent 5,718,007 (hereafter to be referred to as Lloyd) and U.S. Patent 4,685,158 (hereafter referred to as Lively).

The Examiner has further rejected former claims 29-31 under 35 U.S.C. §103(a) as being unpatentable over Janosko et al., Lloyd and Lively in further view of U.S. patent no. 5,559,720 (hereafter referred to as Tompkins et al.).

The Examiner has further rejected former claims 36 and 37 under 35 U.S.C. §103(a) as being unpatentable over Janosko et al., Lloyd and Lively in further view of U.S. patent no. 4,189,791 (hereafter referred to as Dundas).

**D. Reply to the Rejection of claims 26, 28-32, 34-37 and 39-41**

Former claims 26, 28-32, 34-37 and 39-41 have been cancelled from the present application without prejudice and have been replaced by new claims 42-67.

For the reasons presented below, the Applicant respectfully submits that new claims 42-67 are neither taught nor rendered obvious by the documents cited by the Examiner.

**Claim 42**

New independent claim 42 reads as follows:

42. (New) *A freeze control system for a spa, said freeze control system comprising:*

- a) *a temperature sensor suitable for obtaining a measurement associated to an ambient air temperature near the spa;*
- b) *a spa controller in communication with said temperature sensor for receiving a signal conveying said measurement associated to the ambient air temperature near the spa, said spa controller being operative for:*
  - i) *processing said signal to derive a rate of purge data element, said rate of purge data element being associated to a certain ambient air temperature;*
  - ii) *at least in part on the basis of the rate of purge data element, repetitively causing at least one pump of the spa to be activated for a certain time period and then deactivated, such as to repetitively cause the at least one pump of the spa to run for the certain time period.*

Application No. 09/429,939  
Reply to final Office Action of July 6, 2006

Patent  
Attorney Docket No. 89003-44

The Applicant submits that the subject matter of claim 42 is neither anticipated nor rendered obvious by the documents cited by the Examiner. Without limiting the generality of the foregoing, the applicant submits that the above emphasized limitations of claim 42 are neither taught nor suggested by Janosko et al., Lloyd, Lively, Tompkins et al. and Dundas.

More specifically, the applicant respectfully submits that none of the documents cited teach nor suggest *"at least in part on the basis of the rate of purge data element, repetitively causing at least one pump of the spa to be activated for a certain time period and then deactivated"* where the rate of purge data element is associated to the ambient air temperature near the spa.

Neither Janosko et al. nor Lloyd make use of an ambient temperature system, as correctly pointed out by the Examiner on page 3 of the Office Action.

Lively makes use of a temperature sensing circuit 110 and sensing element 111 where is the sensing element is mounted so as to be exposed to ambient air (see column 6, lines 41-52). However, Lively merely relies on the temperature measurement to actuate a relay. There is nothing in Lively that teaches or remotely suggests repetitively causing a pump of a spa to run for a certain time period where the rate of repetition is related to the ambient air temperature.

In Tompkins, "the microcomputer assesses the time necessary to heat water from an initial temperature to a selected temperature. From this information, the heating rate of the water can be calculated. The heating rate can be stored by the microcomputer and can be used to determine the start time necessary to heat the spa water from an initial temperature to a selected temperature by a desired time." [see column 2, lines 4-10]. There is nothing in Tompkins that describes repetitively causing a pump of a spa to run for a certain time period where the rate of repetition is related to the ambient air temperature. Rather in Tompkins, the heating (or cooling) rate of the water is

Application No. 09/429,939  
Reply to final Office Action of July 6, 2006

Patent  
Attorney Docket No. 89003-44

determined and then used to determine when the heater should be activated to achieve a desired water temperature at a given time.

In Dundas, the system is conditioned to respond to temperature differentials between ambient air and water. The Applicant submits that there is nothing in Dundas that teaches or remotely suggests repetitively causing a pump of a spa to run for a certain time period where the rate of repetition is related to the ambient air temperature.

In light of the above, the Applicant submits that that none of the documents cited teach nor suggest *"at least in part on the basis of the rate of purge data element, repetitively causing at least one pump of the spa to be activated for a certain time period and then deactivated."* where the rate of purge data element is associated to the ambient air temperature near the spa.

As such, the applicant submits that the subject matter of claim 42 is novel in light of each of the documents cited by the Examiner.

With respect to obviousness, as per §2142 of the MPEP, in order to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. And finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

Since none of the cited documents teach or suggest the above emphasized limitations, the Applicant respectfully submits that the combination of references cited by the Examiner fails to meet at least one requirement namely the requirement that the prior art references when combined must teach or suggest all the claim limitations.

Application No. 09/429,938  
Reply to final Office Action of July 6, 2006

Patent  
Attorney Docket No. 89003-44

In light of the above, the Applicant submits that the subject matter of new claim 42, is neither taught nor suggested by the documents cited by the Examiner. Consequently, the Applicant submits that new claim 42 is patentable.

Claims 43-50

Claims 43-50 depend directly or indirectly from claim 42 and as such incorporate by reference all its limitations. As such, the applicant submits that the subject matter of claims 43-50 is also neither taught nor suggested by the documents cited by the Examiner.

Claim 51

New independent claim 51 reads as follows:

51. (New) A spa system having water freeze control capabilities, said spa system comprising:

- a) a spa tub for holding water;
- b) a water heater;
- c) spa piping interconnecting said spa tub and said water heater, said spa piping including at least one pump for circulating water between said water heater and said spa tub;
- d) a temperature sensor suitable for obtaining a measurement associated to an ambient air temperature near said spa system;
- e) a spa controller in communication with said temperature sensor for receiving a signal conveying said measurement associated to the ambient air temperature near said spa system, said spa controller being operative for:
  - i) processing said signal conveying said measurement associated to the ambient air temperature near said spa system to derive a rate of purge data element, said rate of purge data element being associated to a certain ambient air temperature;
  - ii) at least in part on the basis of the rate of purge data element, repetitively causing the at least one pump of the spa to be activated for a certain time period and then deactivated, such as to repetitively cause the at least one pump of the spa to run for the certain time period.

The Applicant submits that the subject matter of claim 51 is neither anticipated nor rendered obvious by the documents cited by the Examiner. Without limiting the generality of the foregoing, the applicant submits, for the same reasons as those set forth

Application No. 09/429,939  
Reply to final Office Action of July 6, 2006

Patent  
Attorney Docket No. 89003-44

with respect to claim 42, that the above emphasized limitations of claim 51 are neither taught nor suggested by Janosko et al., Lloyd, Lively, Tompkins et al. and Dundas.

In light of the above, the Applicant submits that the subject matter of new claim 51, is neither taught nor suggested by the documents cited by the Examiner. Consequently, the Applicant submits that new claim 51 is patentable.

Claims 52-59

Claims 52-59 depend directly or indirectly from claim 51 and as such incorporate by reference all its limitations. As such, the applicant submits that the subject matter of claims 52-59 is also neither taught nor suggested by the documents cited by the Examiner.

Claim 60

New independent claim 60 reads as follows:

60. (New) *A method for preventing water from freezing in piping associated to a spa system, said method comprising:*
- a) *obtaining a measurement associated to an ambient air temperature near the spa system;*
  - b) *processing said measurement to derive a rate of purge data element, said rate of purge data element being associated to a certain ambient air temperature;*
  - c) *at least in part on the basis of said rate of purge data element, repetitively causing at least one pump of the spa system to be activated for a certain time period and then deactivated.*

The Applicant submits that the subject matter of claim 60 is neither anticipated nor rendered obvious by the documents cited by the Examiner. Without limiting the generality of the foregoing, the applicant submits, for the same reasons as those set forth with respect to claim 42, that the above emphasized limitations of claim 60 are neither taught nor suggested by Janosko et al., Lloyd, Lively, Tompkins et al. and Dundas.

Application No. 09/429,939  
Reply to final Office Action of July 6, 2006

Patent  
Attorney Docket No. 89003-44

In light of the above, the Applicant submits that the subject matter of new claim 60, is neither taught nor suggested by the documents cited by the Examiner. Consequently, the Applicant submits that new claim 60 is patentable.

Claims 61-65

Claims 61-65 depend directly or indirectly from claim 60 and as such incorporate by reference all its limitations. As such, the applicant submits that the subject matter of claims 61-65 is also neither taught nor suggested by the documents cited by the Examiner.

Claim 66

New independent claim 66 reads as follows:

66. (New) A freeze control system for a spa, said freeze control system comprising:

- a) means for obtaining a measurement associated to an ambient air temperature near the spa;
- b) means for processing said measurement to derive a rate of purge data element;
- c) means for repetitively causing, at least in part on the basis of the rate of purge data element, at least one pump of the spa to be activated for a certain time period and then deactivated, such as to repetitively cause the at least one pump of the spa to run for the certain time period.

The Applicant submits that the subject matter of claim 66 is neither anticipated nor rendered obvious by the documents cited by the Examiner. Without limiting the generality of the foregoing, the applicant submits, for the same reasons as those set forth with respect to claim 42, that the above emphasized limitations of claim 66 are neither taught nor suggested by Janosko et al., Lloyd, Lively, Tompkins et al. and Dundas.

In light of the above, the Applicant submits that the subject matter of new claim 66, is neither taught nor suggested by the documents cited by the Examiner. Consequently, the Applicant submits that new claim 66 is patentable.

Application No. 09/429,939  
Reply to final Office Action of July 6, 2008

Patent  
Attorney Docket No. 89003-44

Claim 67

New independent claim 67 reads as follows:

67. (New) A freeze control system for a spa, said freeze control system comprising:

- a) a temperature sensor suitable for obtaining a measurement associated to an ambient air temperature near the spa;
- b) a spa controller in communication with said temperature sensor for receiving a signal conveying said measurement associated to the ambient air temperature near the spa, said spa controller being operative for **repetitively causing at least one pump of the spa to be activated for a certain time period and then deactivated at a repetition rate conditioned at least in part on the basis of said measurement associated to an ambient air temperature near the spa.**

The Applicant submits that the subject matter of claim 67 is neither anticipated nor rendered obvious by the documents cited by the Examiner. Without limiting the generality of the foregoing, the applicant submits, that the above emphasized limitations of claim 67 are neither taught nor suggested by Janosko et al., Lloyd, Lively, Tompkins et al. and Dundas.

In light of the above, the Applicant submits that the subject matter of new claim 67, is neither taught nor suggested by the documents cited by the Examiner. Consequently, the Applicant submits that new claim 67 is patentable.



JAN 04 2007

Application No. 09/429,939  
Reply to final Office Action of July 6, 2006

Patent  
Attorney Docket No. 89003-44

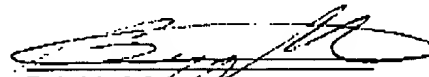
**CONCLUSION**

It is respectfully submitted that claims 42-67 are in condition for allowance. Reconsideration of the rejections and objections is requested. Allowance of claims 42-67 at an early date is solicited.

If the claims of the application are not considered to be in full condition for allowance, for any reason, the Applicant respectfully requests the constructive assistance and suggestions of the Examiner in drafting one or more acceptable claims or in making constructive suggestions so that the application can be placed in allowable condition as soon as possible and without the need for further proceedings.

Respectfully submitted,

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